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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,779	11/04/2003	Kenji Inoue	P03344-US DIV	5901

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EXAMINER

SUMMONS, BARBARA

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 04/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/699,779	Applicant(s) INOUE, KENJI	
	Examiner Barbara Summons	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-20 and 27-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12, 15-20, 30 and 34 is/are allowed.
- 6) ☒ Claim(s) 5-11, 13, 14, 27-29 and 31-33 is/are rejected.
- 7) ☒ Claim(s) 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 January 2005 (repl. sheets) is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 13 January 2005. These drawings are approved. These drawings and Applicants arguments have overcome all prior drawing objections, and so the objections are withdrawn.

Specification and Claim Objections

2. The amendment received 1/13/05 has overcome all prior specification and claim objections, and so the objections have been withdrawn.

New Grounds of Claim Objections

3. Claim 6 is objected to because of the following informalities:

In claim 6, on line 1, "are" should be changed to the singular - - is - - to match claim 5, line 10, which has been amended to recite a singular "capacitance means which has". Appropriate correction is required.

Maintained Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 5 and 6 are rejected under 35 U.S.C. § 102(b) as being anticipated by Wu JP 11-330904 (of record) for reasons of record substantially repeated below while addressing the amended claim language.

Fig. 1 of Wu discloses a SAW device being a mobile phone (see section [0001]) in which a SAW element is mounted, the SAW element including a ladder filter circuit having a serial arm between input/output terminals 41-0 and 41-4 with a plurality of first series SAW resonators 40S, and a plurality of parallel arms between the serial arm and reference potential 65 with a plurality of second parallel SAW resonators 40P, wherein the resonant frequency of the series resonators corresponds to the anti-resonant frequency of the parallel resonators (see Fig. 6), and a capacitance means being, for example, capacitor 50S-23 which inherently has a predetermined electrostatic capacity, and which is "interconnected between" the parallel arms nearest the input and output terminals. It should be noted that "interconnected between" requires no specific electrical or physical connections like "directly connected" or between specific nodes of the "parallel arms". In the instant case, capacitance means 50S-23 is electrically interconnected between the two parallel arms at nodes N1 and N2, being directly connected to node N1 and connected to node N2 via series resonator 40S-23.

Regarding claim 6, the capacitance means 50S-23 is formed on the SAW element piezoelectric substrate [see Fig. 1(a)].

6. Claims 8-11, 13, 14, 27-29 and 31-33 are rejected under 35 U.S.C. § 102(b) as being anticipated by Ehara et al. U.S. 5,905,418 (of record) for reasons of record substantially repeated below.

Fig. 25 of Ehara et al. discloses a SAW element comprising: a first wiring portion (a.k.a. series arm) between terminals IN and OUT; a plurality of second wiring portions

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(a.k.a. parallel arms) between the series arm and a reference potential terminal E; at least two single unit elements each comprising a first/series SAW resonator 114/118 having a second/parallel SAW resonator 120/124 at an input side thereof and a third/parallel SAW resonator 122/126 at an output side thereof, and each unit element having the reference potential sides of the second and third parallel SAW resonators connected to each other at a connection point/node and a corresponding inductance element 128/130 (see col. 10, line 6) located between the connection point and reference potential terminal E. Regarding claim 9 and the resonant and anti-resonant frequencies of the resonators, Ehara et al. is modifying the prior art ladder filter of Fig. 8 such that the resonant frequency of the series resonators and the anti-resonant frequency of the parallel resonators must inherently substantially correspond to each other in order to form a usable band pass filter as evidenced by other art of record and as also admitted by Applicant (see Applicant's specification at page 14, lines 13-20).

Regarding claim 10, Fig. 25 of Ehara et al. also discloses a fourth resonator 116 between two first/series resonators 114 and 118, and resonator 112 can be considered a fourth resonator between the first series resonator 114 and the input terminal.

Regarding claims 11 and 33, since the equivalent circuit of the fourth SAW resonators 112 and 116 is an LC resonator circuit and because SAW resonators have both electrostatic and motional capacitance values, these resonators can also be considered "capacitance elements" by the broadest interpretation of the term. Regarding the SAW device and branching filter of claims 27-29 and 31-34, see Fig. 1, which shows the SAW ladder filters used as transmitting and receiving filters in a branching filter.

Maintained Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wu JP 11-330904 (of record) taken alone for reasons of record repeated below.

Wu discloses the invention as discussed above, except for disclosing the SAW device of the mobile phone (see section [0001]) specifically being a branching filter.

As evidenced by numerous other references of record, the Examiner takes Official Notice that it would have been extremely well known in the SAW filter art to use such SAW filter elements in branching filters (a.k.a. SAW duplexers).

Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the SAW device of Wu, if even necessary, such that it would have been mounted and used in a portable phone as a duplexer in view of the explicit suggestion by Wu to use it in a portable phone (see section [0001]) and wherein such SAW filters would have been extremely well known by one of ordinary skill to be used as SAW branching filters and/or IF filters in such portable phones.

Allowable Subject Matter

9. Claims 12, 15-20, 30 and 34 are allowable over the prior art of record.

10. Claim 35 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments filed 1/13/05 have been fully considered but they are deemed not persuasive.

Regarding claim 5 and the Wu reference, Applicant argues that the "capacitor in Wu clearly differs from that of the present invention" due to its purpose being different (see the paragraph bridging pages 18 and 19 of the amendment). This argument is not persuasive because it is not commensurate with the scope of the claims since there is nothing in claim 5 requiring the "capacitance means" to have a specified purpose and/or function.

In the next paragraph Applicant argues that because "it interconnects the node formed by the inductance element and the resonator in each of the two outside parallel arm SAW resonators" the inventive capacitance has a different effect. This argument is not persuasive because it is not commensurate with the scope of the claims since there is nothing in claim 5 requiring a specific effect of the capacitance means or that it be "interconnected" between the parallel arms in specific locations (see claim 35 having allowable subject matter).

Finally, in the next paragraph Applicant argues that the inventive capacitance "can operate the attenuation pole frequencies" while the capacitance in Wu does not suggest such a capacitance. This argument is also unpersuasive because it is not

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commensurate with the scope of the claims since there is nothing in claim 5 indicating that the “capacitance means” has anything to do with an attenuation pole frequency.

Regarding claim 8 and the Ehara et al. reference, Applicant argues that the base circuit (i.e. the claimed “unit element”) of the invention is different structurally from Ehara because the invention has “one series arm and two parallel arms” while Ehara has “two series and (two) parallel arms” (see the last paragraph on page 19 of the amendment). This argument is not persuasive because the base unit elements of Ehara are considered to have one series resonator (e.g. 114) and two parallel resonators (120 and 122) as required by the claim with the additional resonator (112 or 116) being the additional resonator recited in Applicant’s dependent claim 10. Furthermore, when using open claim language like “comprising” or “each of said single unit elements including” (emphasis added), any additional structure is irrelevant as long as the claimed structure is provided. It should be further noted that there are other references of record that have exactly the same structure as Applicant’s Fig. 6 (see e.g. Fig. 19 of U.S. 9,150,904 or Fig. 4a and 4b in U.S. 6,043,585).

Applicant then argues that Ehara has not “why” what it does works to make “the attenuation characteristic steep” (see the first full paragraph of page 20 of the amendment) and that technical aspects of the invention are “not described in Ehara” (next three paragraphs of page 20). These arguments are not persuasive because they are not commensurate with the scope of the claims since claim 8 does not require a specific function or technical aspect be provided by the recited structure.

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Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara Summons whose telephone number is (571) 272-1771. The examiner can normally be reached on M-Th, M-Fr.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pascal can be reached on (571) 271-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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April 5, 2005

**BARBARA SUMMONS
PRIMARY EXAMINER**